

31

Notice of Allowability

Application No.

10/574,974

Examiner

Quyen P. Leung

Applicant(s)

ORON ET AL.

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/27/07.
2. ☒ The allowed claim(s) is/are 1,9,11,18-23,38-40,42,43,45,63,65 and 71-79.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

/Quyen Leung/
Quyen Leung
Primary Patent Examiner
Group Art Unit 2874

REASONS FOR ALLOWANCE

In response to applicant's amendment filed 8/27/07, the specification and claim 1 have been amended; claims 14-15 canceled; claims 71-79 added. Claims 2-8, 10, 12-13, 16-17, 24-37, 41, 44, 46-62, 64, 66-70 were previously canceled by the 4/7/06 amendment. Claims 1, 9, 11, 18-23, 38-40, 42-43, 45, 63, 65, 71-79 are pending and allowed.

The following is an examiner's statement of reasons for allowance:

Re claims 1, 9, 11, 71-79, the claims are allowed because the cited prior art separately or in combination do not teach or fairly suggest an optical hot tip for absorbing high optical energy traveling in a fiber or waveguide, comprising: a core that receives the high power optical energy; and a scattering end tip adjacent to an end of the fiber or waveguide and containing an absorber, **such that the optical energy is impinged on the absorber to heat the absorber to a temperature of at least about 1000°C.**

The closest prior art Dalgault et al (EP 0 399 660) teaches an optical hot tip (10) comprising a core (inherent to the fiber 14) that receives the high power optical energy; and a scattering end tip (12--see col. 5 lines 5-12 for the implication of scattering with the teaching of illumination, heating, vaporization or thermography, as further evidenced by the definition of *scattering* "spreading by diffusion" from wordnet.Princeton.edu/perl/webwn and of *diffusion* "the spontaneous spreading of something such as particles, heat, or momentum"

from en.wikipedia.org/wiki/diffusion) adjacent (see col. 5 lines 45-47 for the teaching of adjacent) to an end of the fiber (14) and containing an absorber (12, see abstract for absorbing teaching), such that the optical energy is impinged on the absorber, to heat the absorber to a temperature of at least about 100 degrees Celcius (see col. 1 lines 20-24 for the teaching of several hundred degrees Centigrade). However, Dagnault et al fails to teach or fairly suggest the emboldened feature above.

Re claims 18-23, the claims are allowed because the cited prior art separately or in combination do not teach or fairly suggest an optical hot tip for absorbing high optical energy traveling in a fiber or waveguide, comprising: a scattering core that receives the high power optical energy; and an absorbing layer at least partially surrounding the scattering core to conduct the high power energy away from the scattering core, the absorbing layer being in contact with the fiber or waveguide.

Bruce (5,534,000) teaches a laser fiber apparatus having a contact tip (18) and adjacent diffuser (i.e. scattering) element (20), but fails to teach or fairly suggest either an absorbing layer, a scattering core, or a first conductive layer adjacent to the end of the fiber such that the optical energy is impinged on the first conductive layer. Note in col. 5 lines 43-47 the inherently non-conductive diffuser is made by mixing 4 parts of an optical adhesive with 1 part alumina and then cured with ultraviolet light. Ohsawa (5,530,780) teaches a fiber optic laser conducting and diffusion device comprising a scattering core (7') for uniform light

Art Unit: 2874

distribution and also a resin light diffusion tip (4), but fails to teach an absorbing layer to conduct high power energy away from the scattering core or a first conductive layer adjacent to the end of the fiber such that the optical energy is impinged on the first conductive layer, creating a scattering tip.

Re claims 38-40, 42-43, 45, 63, and 65 the claims are allowed because the cited prior art separately or in combination do not teach or fairly suggest an optical hot tip for absorbing high optical energy traveling in a fiber or waveguide, comprising: a core that receives the high power optical energy; and a first conductive layer adjacent to an end of the fiber or waveguide, such that the optical energy is impinged on the first conductive layer, creating a scattering end tip.

Bruce (5,534,000) teaches a laser fiber apparatus having a contact tip (18) and adjacent diffuser (i.e. scattering) element (20), but fails to teach or fairly suggest either an absorbing layer, a scattering core, or a first conductive layer adjacent to the end of the fiber such that the optical energy is impinged on the first conductive layer. Note in col. 5 lines 43-47 the inherently non-conductive diffuser is made by mixing 4 parts of an optical adhesive with 1 part alumina and then cured with ultraviolet light. Ohsawa (5,530,780) teaches a fiber optic laser conducting and diffusion device comprising a scattering core (7') for uniform light distribution and also a resin light diffusion tip (4), but fails to teach an absorbing layer to conduct high power energy away from the scattering core or a first

conductive layer adjacent to the end of the fiber such that the optical energy is impinged on the first conductive layer, creating a scattering tip.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quyen P. Leung whose telephone number is (571) 272-8188. The examiner can normally be reached on normally M-F, 6:15 am - 2:45 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quyen Leung/
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qpl